BBOXX BB120 KIT DATASHEET

PRODUCT IMAGE

SOLAR KIT CONTENT

- BB120 Battery Box
- 185W Solar Panel
- Grid Charger
- 4x 6W LED Tube
- USB Phone Charger
- AC Output

DETAILED PRODUCT SPECIFICATIONS

Control Unit	Continuous Output Power: 400W, Pure Sine Wave Inverter and Removable Fuse. Low/High Voltage, Thermal, Overload and Short-circuit Protection, Battery, AC and Solar Panel State of Charge Display, Two USB Outputs, Six 12V DC Outputs.
Solar Panel	185W Flexible Polycrystalline Solar Panel with 10m cable and Integrated Connector
Battery	120Ah, 12V Sealed Lead Acid, Maintenance Free Battery
LED Lights	Four 6W LED Tube Lights with 8m cable and Integrated Connector
Other Accessories	DC Laptop Charger, USB Multiple Phone Charger, Two Spare Fuses, User Manual, Grid Charger, Splitter Cable for Lights, Extension Cable for Lights and Accessories.
Weight	(11.3kg Control Box Weight) Dimensions: (Control Box: 425mm x 408mm x 305mm)

BBOXX BB120 CONTROL UNIT DATASHEET

PICTURE

GRID CHARGER SPECIFICATIONS

PARAMETER	VALUE
Input	AC110-240V (Max 255V), 50/60Hz
Output	16V/3A

OPERATION CONDITIONS

PARAMETER	VALUE
Recommended Operating Temp. Range	20—25°C
Discharging Operating Temp. Range	-10 to 50°C
Recommended Storage Temperature	25°C

CASING SPECIFICATIONS

PARAMETER	VALUE
Dimensions	425x408x305mm
Weight (whole unit)	11.3kg
Casing Material	SPCC
Drop Test	75cm
IP	IP51

CHARGE CONTROLLER/PCB SPECIFICATONS

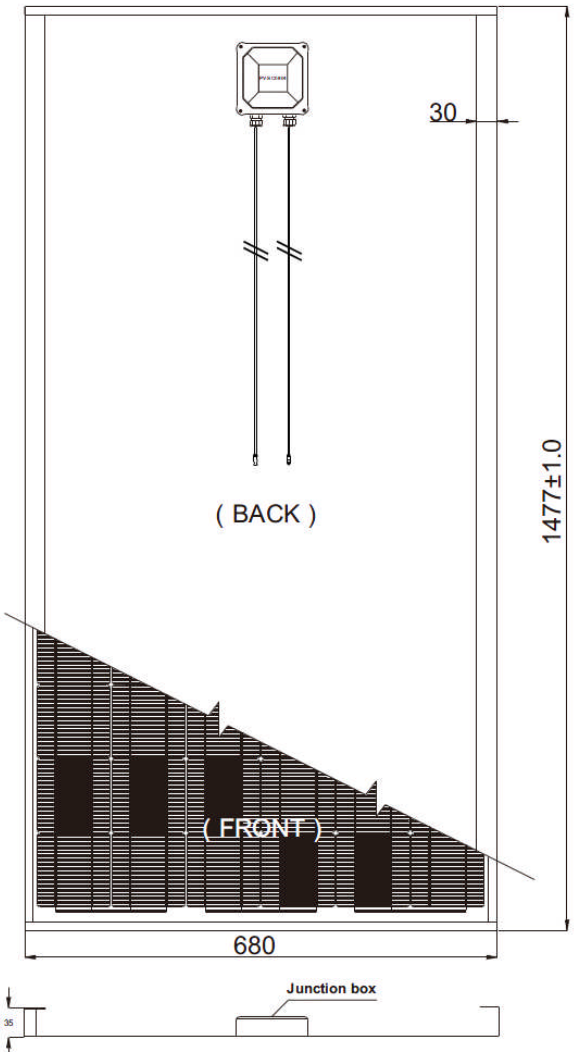
PARAMETER	VALUE
Max DC Output Power	400W
Fuse	30A/250V Removable x2
Inverter	Pure Sine Wave
Protections	Low voltage (disconnect point: 11.3V), High voltage (disconnect point: 14.9V), Thermal, Overload, Short-circuit
Display	Battery state of charge, USB On/Off, 12VDC On/Off, AC On/Off
Outputs	USB (5V/05A) x2, 12VDC (2.5mm, 12V/5A) x6, Universal AC plug x1, External 12V Battery terminals
Inputs	Inverter/Charger
Max Input Voltage	28V
Max. Charging Efficiency	95%
AC Charger	16V/3A
Charging Type	MPPT
Solar Panel Input	MC4 connectors, 300W max

WARRANTY & CERTIFICATIONS

PARAMETER	VALUE
Warranty (under terms and conditions)	12—18 months
Certifications	CE Conformity, Conform to EU EMC – Directive 2004/108/EC, EN 55022:2010, EN 61000-3-2:2006+A1:2009+A2:2009, EN 61000-3-3:2008, EN 55024:2010, EN 61000-4-2:2009, EN 61000-4-3:2006+A1:2008+A2:2010, EN 61000-4-4:2004+A1:2010, EN 61000-4-5:2006, EN 61000-4-6:2009, EN 61000-4-8:2010, EN 61000-4-11:2004. RoHS—Directive 2011/65/EU, EPA3050B:1996, EN1122B:2001, EPA3052:1996, EPA3060A:1996, EPA7196A:1992, EPA3540C:1996, EPA8270D:2007

BBOXX 185W SOLAR MODULE DATASHEET

MODULE DIAGRAM



TEMPERATURE COEFFICIENT

PARAMETER	VALUE
Power : Pmax (%/°C)	-0.5%/ °C
Voltage : Voc (%/°C)	-0.34%/ °C
Current : Isc (%/°C)	+0.05%/ °C

WARRANTY & CERTIFICATIONS

PARAMETER	VALUE
Warranty	20 years limited 70% power warranty
Warranted Tolerance (+/-)	+/- 5%
Certifications	IEC-61000(CE)

ELECRICAL SPECIFICATIONS

PARAMETER	VALUE
Rated Power (W)	185
Maximum Power Voltage (V)	24
Maximum Current (A)	7.71
Open Circuit Voltage (V)	29.30
Short Circuit Current (A)	8.40
Cell Efficiency (%)	16.4
Module Efficiency (%)	13.6
NOCT	45 °C(+2°C)
Output Tolerance (%)	+/- 5%
Fill Factor (%)	70% --- 72%

Measured at Standard Test Conditions (STC) : Irradiance of 100W/m², air mass of 1.5, cell temperature of 25 °C

MECHANICAL SPECIFICATIONS

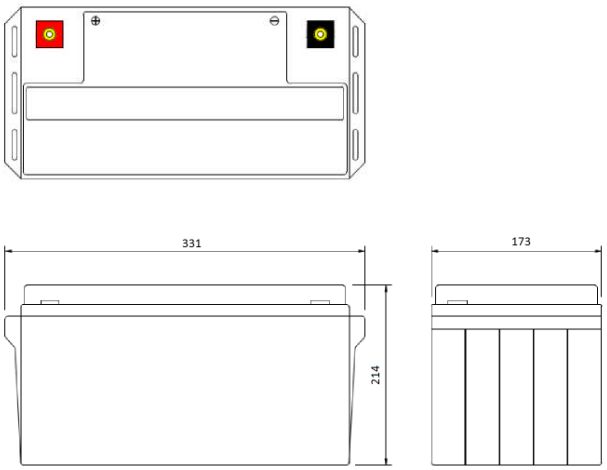
PARAMETER	VALUE
Solar Cell	76 PCS
Cell Size (mm)	156x78
Module Size (mm)	1300 x990 x35
Frame (Type. Material, Tick-ness)	Anodized Alu. alloy frame ,35 mm thickness
Weight (Kg)	15.6
Type Of Junction Box	(PV-SC0804-32)
Cable Length	1.5m
Cable Size	1.0 mm²
Cell Encapsulation	EVA

OPERATION CONDITION & SAFETY RATINGS

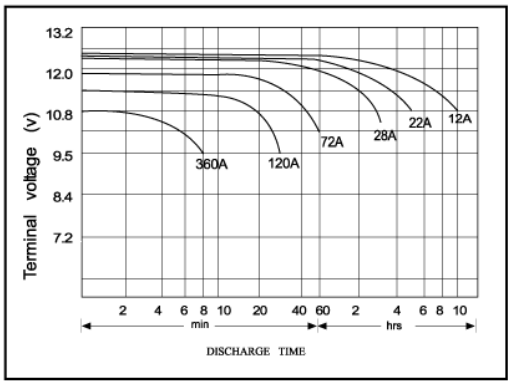
PARAMETER	VALUE
Ambient Operating Temperature	-40°C to 85°C
IP	IP65
Wind Bearing	60m/s(200kg/m²)
Hail Impact Rate	227g steel ball dropped 1m height, equivalent to 25mmϕ hail at 97 km/h

BBOXX 120AH BATTERY DATASHEET

DIMENSIONS



CHARACTERISTIC DISCHARGE CURVES



OPERATION CONDITIONS

PARAMETER	VALUE
Recommended Operating Temperature	25°C
Discharging Operating Temp. Range	-10 to 50°C
Recommended Storage Temperature	25°C

TECHNICAL SPECIFICATIONS

PARAMETER	VALUE
Nominal Voltage	12V
Nominal Capacity	120Ah (20h rate)
Specific Energy	43.6 Wh/kg
Dimensions (LxWxH, mm)	331x173x214
Weight	33kg
Standard Terminal	L9

CAPACITY SPECIFICATIONS

PARAMETER		VALUE	
1.75V/cell @25°C	10h rate	12A	120Ah
1.75V/cell	5h rate	20A	102Ah
1.67V/cell	1h rate	72A	72Ah
1.67V/cell	15min rate	210A	52.5Ah

CHARGING SPECIFICATIONS

PARAMETER	VALUE
Charge Voltage (constant)	Float 13.6 ~ 13.8V Cycle 14.5 ~ 14.9V
Internal Resistance (fully charged battery)	< 3.2mΩ
Discharge Current (5s max)	360A
Self Discharge (25°C)	After 3 months: 91%
	After 6 months: 82%
	After 12 months 64%

ACTUAL WATTAGE CAPACITY AT VARIOUS DISCHARGES (Voltage @25°C)

Cut-off voltage	5 min	10 min	30 min	60 min	10h	20h
1.85 V	2440.7 W	2181.7 W	1371.5W	785.7W	145.6W	73.0W
1.80V	2628.7 W	2283.8 W	1393.2W	807.8W	143.1W	73.6W
1.75V	2808.0W	2507.4W	1477.8W	832.5W	144.0W	73.6W
1.70V	3380.4 W	2887.4W	1506.5W	849.6W	146.6W	74.0W
1.6V	3857.0 W	3068.2W	1626.5W	864.0W	147.3	75.0W

WARRANTY & CERTIFICATIONS

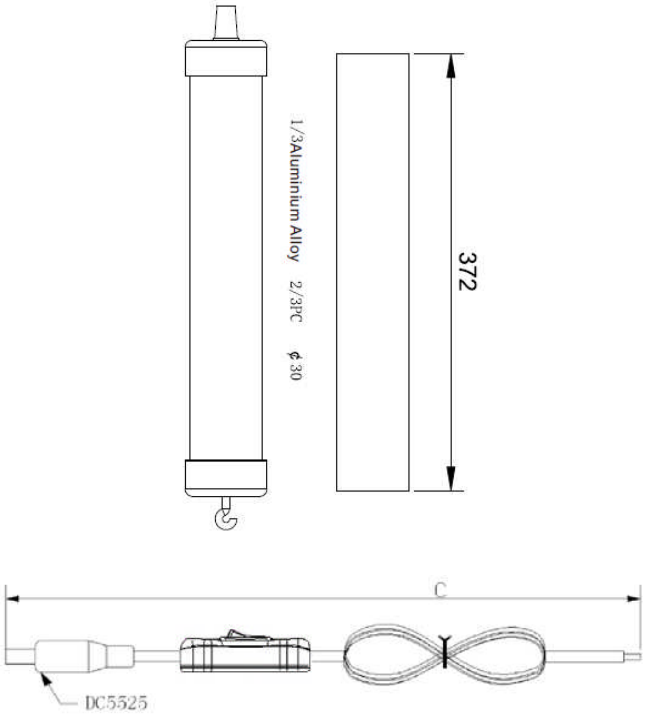
PARAMETER	VALUE
Warranty (under terms and conditions)	2 Years
Warranted Tolerance	70%
Certifications	CE Conformity, Conform to EU EMC – Directive 2004/108/EC, EN 61000-6-1: 2007, EN 61000-6-3: 2007, IEC, JIS, UL, BS6290 - Part 4 IEC 60896-2/'04 and JIS C8704-2

Warning! Precautions to take against self discharge:

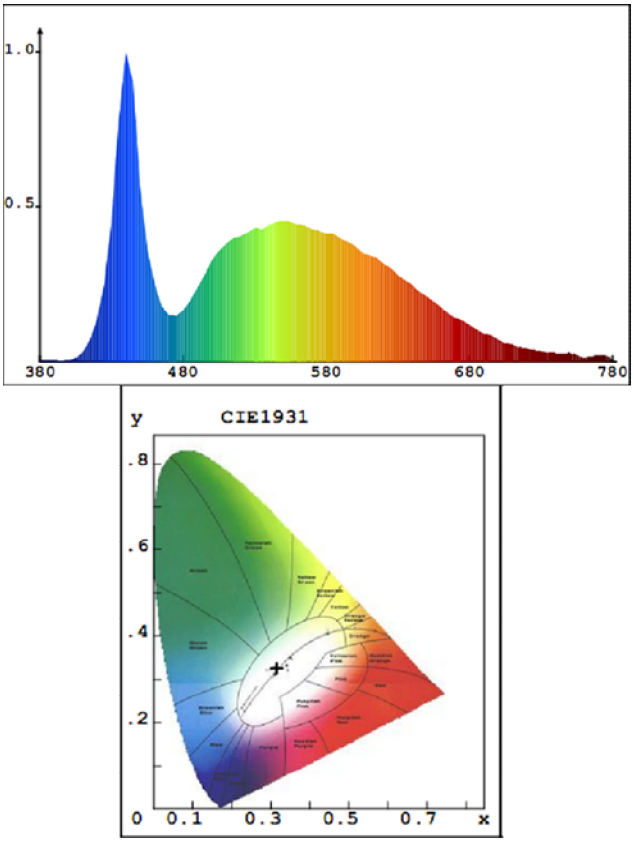
- The batteries should be stored in a cool, dry place.
- The batteries should not be stored in direct sunlight.
- The batteries should not be subjected to an external heat source.
- The voltage of batteries in stock should be regularly checked.
- If stored at more than 30°C, the battery sould be recharged at least once every 3 months
- The lifespan of BBOXX SLA batteries or solar kits containing SLA batteries will be guaranteed according to BBOXX SLA batteries lifespan vs discharge curves found in the technical folder on the BBOXX website.
- The consignee must ensure during a warranty claim that the customer did not overload the batteries, connect loads directly to the battery terminals or modified the low voltage disconnect points of BBOXX's discharge controllers or inverter-chargers.
- The consignee must make sure that the system is installed and used according to BBOXX user manuals.

BBOXX 6W LED TUBE DATASHEET

DIMENSIONS



CHROMACITY



ELECRICAL SPECIFICATIONS

PARAMETER	VALUE
Rated Power (W)	5.46
Input Voltage (V)	13
Input Current (mA)	0.42
LED Type	White
Lifespan	>30000H

MECHANICAL SPECIFICATIONS

PARAMETER	VALUE
Socket Material	Aluminium Alloy
Cover Material	PC
PCB Material	FR4 Double-sided
Weight	0.29
Dimension A (mm)	ϕ34MM
Dimension B (mm)	370MM
Dimension C (mm)	Various
IP Class	IP53
Switch Life Expectancy	Over 10000 Cycles

OPTICAL SPECIFICATIONS

PARAMETER	VALUE
Luminous Flux (Lm)	>367Lm
Color Temperature	6000--6500K
Color Rendering Index	>70
Lens Light Angle	150° ± 5°

OPERATION CONDITIONS

PARAMETER	VALUE
Operating Temp. Range	-40 to +85°C
Storage Temp. Range	-40 to +85°C

BBOXX USB PHONE CHARGER DATASHEET

OUTPUTS

• 10 kind Jack	• IPHONE
• NOKIA 3.5	• NOKIA Small
• SAMSUNG	• Mini USB
• SONY-ERICSSON	• LG
• PSP	• Micro USB

TYPES OF PHONES SUPPORTED

NOKIA-8210	1100, 1101, 1110, 1600, 2100, 2112, 2116, 2118, 2125, 2140, 2280, 2300, 2600, 2650, 2652, 3100, 3105, 3108, 3120, 3125, 3155, 3200, 3205, 3210, 3220, 3230, 3300, 3310, 3315, 3330, 3350, 3390, 3410, 3510, 3510i, 3530, 3585, 3586, 3610, 3650, 3660, 5100, 5110, 5140, 5140i, 5210, 5510, 6012, 6015, 6020, 6021, 6030, 6060, 6100, 6108, 6110, 6150, 6155, 6170, 6200, 6210, 6220, 6225, 6230, 6230i, 6235, 6250, 6255, 6260, 6270, 6310, 6310i, 6385, 6500, 6510, 6585, 6600, 6610, 6610i, 6620, 6630, 6650, 6670, 6680, 6681, 6800, 6820, 6822, 7110, 7200, 7210, 7250, 7250i, 7260, 7270, 7280, 7600, 7610, 7650, 7700, 7710, 8110, 8210, 8250, 8280,8290, 8310, 8800, 8810, 8850, 8855, 8890, 8910, 8910i, 9110, 9210, 9210i, 9290, 9300, 9500, E60, N-Gag
NOKIA-6101	N70, N71, N72, N73, N80, N80ie, N90, N91, N918GB, N92, N93, E61, E62, 770, 2865i, 3155i,5310, 3250, 5500, 6070, 6080, 6101, 6102, 6102i, 6103, 6111, 6125, 6126, 6131, 6133, 6136, 6151, 6155i, 6165i, 6233,6265i, 6270, 6280, 7360, 7370
NOKIA-8600	8600-6500-6500C-6300-E65-E61I-8800A-5610-3500C-7500-7900-5700
SAM-A288	A300, A400, A561, A601, A800, C100, D410, D500, D508, D510, D600, E100, E310, E330, E360, E600, E630, E700, E730, E738, E770 , E800, E820, N181, N361, N500, P400, P510, R210, R220, S300, S308, S500, SCH-600, SCH-620, T100, T108, T400, T500, T508, V200, X100, X150, X200, X430, X460, X480, X600, X640, X660 SCH-A210, SCH-A310, SCH-A399, SCH-A475, SCH-A505, SCH-A509, SCH-A530, SCH-A539, SCH-A563, SCH-A564, SCH-A570, SCH-A591, SCH-A592, SCH-A595, SCH-A599, SCH-A610, SCH-A650, SCH-A670, SCH-A795, SCH-A809, SCH-N181, SCH-N181, SCH-N182, SCH-N191, SCH-N195, SCH-N288, SCH-N330, SCH-N370, SCH-N375, SCH-X199, SCH-X209, SCH-X309, SCH-X319, SCH-X359, SGH-A200, SGH-A288, SGH-A300, SGH-A308, SGH-A400, SGH-A408, SGH-A500, SGH A561, SGH-A608, SGH-A800, SGH-C100, SGH-C130, SGH-C207, SGH-C225, SGH-C417, SGH-D100, SGH-D307, SGH-D347, SGH-D357, SGH-D407, SGH-D415, SGH-D500, SGH-D600, SGH-D800, SGH-E100, SGH-E105, SGH-E300, SGH-E315, SGH-E316, SGH-E317, SGH-E330, SGH-E330N, SGH-E350, SGH-E335, SGH-E370, SGH-E400, SGH-E600, SGH-E630, SGH-E635, SGH-E700, SGH-E710, SGH-E715, SGH-E760, SGH-E770, SGH-E800, SGH-K528, SGH-N200, SGH-N400, SGH-N500,SGH-N620, SGH-N625, SGH-N628, SGH-P107, SGH-P207, SGH-P400, SGH-P408, SGH-P510, SGH-P735, SGH-Q100, SGH-Q200, SGH-Q208, SGH-Q300, SGH-R200, SGH-R208, SGH-R210, SGH-R210S, SGH-R220, SGH-R225, SGH-R225M, SGH-S100, SGH-S200, SGH-S208, SGH-S300, SGH-S300M, SGH-S307, SGH-S308, SGH S500, SGH-T100, SGH-T108, SGH-T200, SGH-T208, SGH-T209, SGH-T309, SGH-T319, SGH-T410, SGH-T400, SGH-T408, SGH-T500, SGH-T609, SGH-T619, SGH-T709, SGH-T719, SGH-V100, SGH-V200, SGH-V205, SGH-V206, SGH-X100, SGH-X105, SGH-X426, SGH-X427, SGH-X427M, SGH-X450, SGH-X460, SGH-X475, SGH-X480, SGH-X495, SGH-X497, SGH-X507, SGH-X600, SGH-X640, SGH-X660, SPH-A420, SPH-A580, SPH-A640, SPH-A900, SPH-M500, SPH-T100
SAM-G600	G600-M300-M510-G608-G808-M618-M608-L288-I550W-W159-P318

TYPES OF PHONES SUPPORTED

SAM-D800	159/W109/X609/X619/X699/X809/X859/X869/C208/D108/D410/D418/ D428/D488/D508/E338/E608/E618/E638/E808/E810/E818/P518/P738/X108/X430/X458/X458/X468/ X608/Z105/C128/B200/D518/E239/F209/F319/M299/M309/M329/M339/M509/M709/S200/T309/ W219/W379/X639/X708/X839/X889/X899/X909/X919/X929/X939/X969/i539/C218/C238/D608/D720/ D730/D808/D828/E348/E358/E568/E628/E648/E728/E738/E758/E768/E778/E888/E910/P308/P858/ X138/X208/X478/X488/X628/X648/X668/X808/Z130/Z300/Z308/Z500/Z510/Z540/Z700/ZX10/i308/i530/ i858/B600/ D728/ F359/ W399/ X979/ i819/ D528/ D870/ E368/ E900/ P900/ X308/ X678/ X818/ Z150/ Z350/ Z400/ Z550/ Z560/ Z600/ Z710/ i310/ i320/ S4300/ Z140VSGH-D520, D800, D820, D830, D840, D900, E250, E390, E500, E570, E780, E870, E900, P300, P310, X820, X830, Z400, Z400v, Z510, Z520, Z530, Z540, Z540v, Z560, Z720, ZV40
MOTO-V8	V8-E8-Q8-Z8-Z6-V9-U9-A1800-W230-V1600-W510
MOTO-V998	920/328/V998/V999/T689/L2000/V3688/STAR/L2168/V6088/3690/ 928/V8160/T189/388/C289/8088/8160/7790/CD928/C350/C359/2088/308/338/366/306/
MOTO-V66	E365/E360/E380/C365/T2688/T360/XGF520/T2988/T205/FUNAI/A630, A830, A835, A920, A925, A1000, C331 and C332 (TDMA versions), C333 (CDMA with antenna), C341, C343, C353 (TDMA), C975, E310, E550, E1000, MPx220, ROKR, T280i, T300p, T720, T720i, T721, T721i, T722i, T730, T731, V70, V260, V262, V265, V300, V400, V500, V505, V525, V545, V547, V550, V551, V600, V620, V635, V710, V810, V975, V1050, V60, V60i, V60c, V60p(PTT), V60s, V60t, V60t Colour, V60g, V60x, V66, V66i, V120c, 120t, 120x, 120c, 120e, 270c, 280, phones and V200 Personal Communicator. S2688 /NEC998D/Konka5218/Haier3000/Pang60/V66
MOTO-V3	A780, E1070, E770v, KRZR K1, L2, L6, L7 i-mode, MPx200, PEBL V6, RAZR maxx V6, RAZR V3, RAZR V3i, RAZR V3x, RIZR Z3, SLVR L7, U6, V235, V360, V360vT10 series, T30 series, PMP-100 series, PMC-100 series, H300 Series, iGP-100, iFP-1000 series, iFP-900 series, iFP-800 series, iFP-700 series, iFP-300 series, N10 V220/T300/ E1000/ E390/ E398/ E610/ E615/E680/E1060/E1070/ E1120/ E375/ E680i/ E685/E725/ E770/ E790/ E895 /V3
SONYERI-T28	2618, 3618, A2618s, A2628 , A3618s - Blue, A3618s - Silver, F500i, J200i, J210i, J220i, J230i, J300, K300i, K500i, K508i, K600i, K608i, K700i, P800, P900, P910, P910i, R310s, R320c, R380, R520, R600, S700i, T100, T105, T20, T200, T20e, T20s , T230, T28, T28s, T29, T290, T29s, T300, T310 , T39, T39s, T60, T600, T606, T608, T610, T630 , T65, T66, T68, T68i, V600, V800, Z1010, Z200, Z500 A2218z, A2618, A2618s, A2628, A3618s, F500i, J210i, J300i, K300i, K500i, K508i, K600i, K608i, K700i, P800, P900, P910i, R300d, R300LX, R300z, R320, R320s, R380 WORLD, R380e, R380s, R520m, R600, S700i, T20e, T20s, T28 WORLD, T28z, T29, T29s, T39m, T60c, T60d, T61c, T61d, T61LX, T61z, T62u, T65, T66, T68, T68i, T100, T105, T200, T226, T230, T290i, T300, T306, T310, T316, T600, T610, T616, T620, T630, V600i, V800, Z200, Z300i, Z600, Z800i, Z1010
SONYERI-750	J200c/J200c/K506c/K508c/K700c/P908/P910c/S700c/T290c/V800/Z1010/Z500/J210c/J220/J230/J230i/ J300c(J300i)/K300c/K600i/K608i/K750c/K758c/P990c/V600i/W550c/W800c/W900c/Z300/Z520c/Z800i/ J220c/J220c/K310c/K510c/K610c/K790c/K800c/M600c/W300c/W600c/W810c/W810i /W950c/Z530c/Z530iD750i, J100a, J100c, J100i, J220a, J220c, J220i, J230c, J230i, K310a, K310c, K310i, K320i, K510a, K510c, K510i, K610i, K610im, K750c, K750i, K758c, K790a, K790c, K790i, K800i, M600i, M608c, P990i, V630i, W300c, W300i, W550c, W550i, W600c, W600i, W700c, W700i, W710c, W710i, W800i, W810c, W810i, W830i, W850i, W900c, W900i, W950i, W958c , Z520a, Z520c, Z520i, Z525a, Z525i, Z530c, Z530i, Z550a, Z550c, Z550i, Z558c, Z558i, Z610i, Z710c, Z710i, J220i, K618i, M600i, W800c, W830
SIE-C25	C25/X25/C35/C45/3518/6618/C2588/3518/3618/3508/3568/6688/2118/M35/M50/ME45/MT50/S35/ S45/SL42/A35/A36/A45/A10/SL50/SL45/S25/S35/S45/2508
SIE-C55	A56/A55/A52/C46/C55/C56/C62/C65/M45/M65/MC60/S56/S57/SL55/SL56/SX1-4/2128/SC55/SL55
LG-8080	LG8080//SC9288/SC9388//LG6260/SC9288/SC9388/LG8180/LG7020
LG-KG90	LG KG800 Chocolate, LG KG810, LG KG320KG225/KG320/KG800/KG920/KG90/VX8500
TREO-650	TREO-650-TREO-680